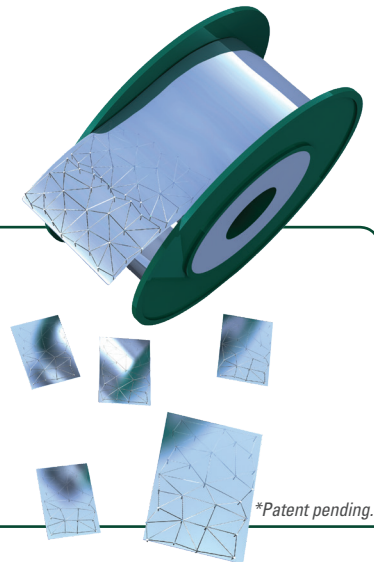


# PRODUCT DATA SHEET

# InFORMS®

## Reinforced Matrixed Solder Composite



### Introduction

**InFORMS®** are reinforced matrixed solder composites. This process produces a reinforced solder fabrication with improved strength and creates a more consistent bondline thickness. A uniform bondline maximizes the thermal and mechanical reliability in the solder joint, therefore, producing solder joints that are higher in reliability.

**InFORMS®** can be manufactured into a wide variety of shapes, including rectangles, discs, and custom shapes, to suit specific application requirements. **InFORMS®** are also available in ribbon\* form for automated assembly.

\*Patent pending.

### Product Advantages

**InFORMS®** offer dramatically improved handling when compared to conventional solder alloy or indium sheet, foil, ribbon, or large preform materials. **InFORMS®** also offer increased tensile and compressive strength via the substrate materials while retaining the unique attributes of the outer layer metal (e.g., the softness, ductility, and other advantages of indium).

### Applications

**InFORMS®** provide engineers with an enhanced material for the development of new, or the improvement of existing, applications. They can be used in applications in which there is a significant CTE mismatch between materials or where there is a high thermal and mechanical demand. An example of one such application is in the manufacture of IGBT modules when bonding the DBC to the base plate. **InFORMS®** can be manufactured in a wide variety of alloys that can be tailored to specific product requirements.

### Dimensional Specifications

**InFORMS®** can be manufactured to meet most standard preform configurations. The geometrical tolerances are not affected by the composite within the solder. The table below lists the standard configurations offered.

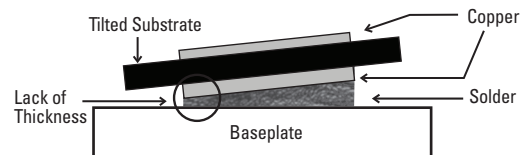
### Standard Configurations

Solder Preform Requirements			
Description	Standoff (Microns)	Part Dimensions (x and y) (Millimeters)	Part Dimensions (z) (Microns)
LM04	100	>10 per side	>150
LM06	150	>10 per side	>200
LM08	200	>10 per side	>250
SM04	100	2.5–10 per side	>150
ESM03	75	.75–2.5 per side	>125
ESM02	50	.75–2.5 per side	>100

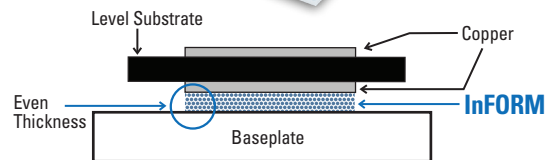
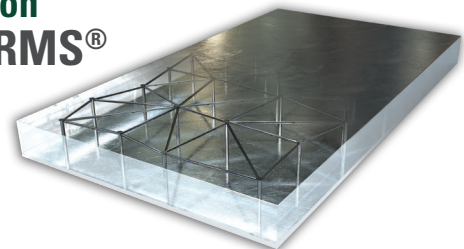
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### Challenge

Uneven solder bondline thickness between the substrate and baseplate of an IGBT module causes stress concentration at the thinner sections as shown here:



### Solution InFORMS®



### Summary

**InFORMS®** are solder preforms or ribbon\* with a reinforcing matrix that improves the strength of the solder material and provides dependable standoff heights. This combination of benefits imparts the reliability and performance in many electrical components.

### Safety Data Sheets

The SDS for this product can be found online at <http://www.indium.com/sds>

\*Patent pending.

## From One Engineer To Another®

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